

[Claim(s)]

[Claim 1]

A personal digital assistant device comprising:

The 1st communication equipment that has an input key switch of a public wireless communication means which performs radio with a public network through radio, a GPS position information calculating means which performs a detecting position by a worldwide positioning system, a specific radio wave receiving means which receives a radio wave signal from specific equipment, an emergency dial, etc. which can be inputted.

It has the 2nd communication equipment that has a notice switch used for an emergency dial etc., and transmits a radio wave signal towards the 1st communication equipment, It is the personal digital assistant device whose report communication was enabled via said public network with said input key switch or a notice switch while the 1st communication equipment received intermittently a radio wave signal from the 2nd communication equipment, An informing means reported with a sound, light, etc. when it detects that a signal detection means which carries out signal level detection of a radio wave signal intermittently received from said 2nd communication equipment to said 1st communication equipment and this signal level are lower than a prescribed period and a predetermined signal level value.

[Claim 2]

The personal digital assistant device according to claim 1 which sends out position detection information by a GPS position information calculating means via a public wireless communication means towards said public network when it is detected in said signal detection means that said radio wave signal is the 2nd predetermined less than signal level value lower than said given signal level value.

[Claim 3]

The personal digital assistant device according to claim 1 or 2 which made a report through a public network by said notice switch as it is possible only when a detection result of a signal level received intermittently [the above] is higher than said predetermined signal level value.

[Claim 4]

A personal digital assistant device given in any one claim of claims 1 thru/or 3 which made radio wave signal frequency by said 2nd communication equipment an intermediate frequency of a signal modem section in which it is provided by said 1st communication equipment.

[Claim 5]

When any one claim of claims 1 thru/or 4 has a request from a usage contract person of a personal digital assistant device of a statement, Personal digital assistant service characterized by what said 1st communication equipment is made to alert for position detection information by the GPS position information calculating means through a public network, the position detected result is received through a public network, and the usage contract person concerned is notified of.

[Detailed Description of the Invention]

[0001]

[Field of the Invention]

This invention relates to the personal digital assistant device and personal digital assistant service which report using a GPS positioning system (worldwide positioning system).

[0002]

[Description of the Prior Art]

There is a personal digital assistant which performed radio with the public network 8 through radio and whose report communication was enabled via the public network 8 from the former with the notice switch as a personal digital assistant device used for the service provision using a GPS positioning system of an emergency reporting system as shown in drawing 6. It performs positioning computing using two or more GPS Satellites 200 and 210 and the GPS data received from 220 and others while performing radio with the public network 8 through radio, as this personal digital assistant 100 is shown in the figure, and it receives the radio wave signal from the cordless handset 101 used as specific equipment. That is, the notice switch used for an emergency dial etc. is formed in the personal digital assistant 100 or the cordless handset 101, and as shown in the figure, the cordless handset 101 serves as small shape.

[0003]

The personal digital assistant 100 is the 1st communication equipment used as the main phone in this case, and as shown in drawing 7, specifically, it has the Radio Communications Department 110 and 120. The Radio Communications Department 110 has the wireless circuit 112 which restores to the input signal by the GPS antenna 111 and the GPS antenna 111 for GPS reception, and outputs received data, and the control circuit 113 which performs various control according to the output signal of the wireless circuit 112. The wireless circuit 122 which outputs the sending signal which the Radio Communications Department 120 restored to the input signal in the antenna 121 of transmission and reception combination, and the antenna 121, and outputted received data, or became irregular with send data to the antenna 121, It has the control circuit 123 which performs various control according to the input output signal between the wireless circuits 122. This Radio Communications Department 110 and 120 is accommodated in the case of the portable size. The above mentioned control circuits 113 and 123 may be formed as one circuit, without making it separate into each.

[0004]

The cordless handset 101 is the 2nd communication equipment, and is provided with the wireless circuit which has a notice switch used for an emergency dial etc., and transmits a radio wave signal towards the 1st communication equipment.

[0005]

In many cases, the above-mentioned personal digital assistant 100 has a notice switch used for an emergency dial etc. And it is usually carried by the user who generally turns into a usage contract person with the cordless handset 101, and is used for the service provision of an emergency reporting system as shown above. Namely, the telephone call or data communications which the personal digital assistant 100 was carried with baggage, such as a bag, by the user of the side carried out in service provision, and passed the portable telephone network in this case, The detecting position of the personal digital assistant 100 is performed using GPS (worldwide positioning system: Global Positioning System). A user's body, clothes, etc. are equipped with the cordless handset 101, and it is always promptly carried and used in the operational state.

[0006]

Wherever the user (namely, member by a usage contract) of the side carried out in human being who carries the personal digital assistant 100, i.e., the above-mentioned personal digital assistant service provision, may be in, he is those who need urgent therapy relief. The personal digital assistant 100 receives the GPS data from GPS Satellite 200 (or GPS Satellites 210 and 220), and computes the current position of the personal digital assistant 100 in the control circuit 113. In this personal digital assistant 100, between the control circuit 123 and the base station 300 in the portable telephone network used as the public network 8, Today comes by that of data communications at least, and this base station 300 is connected with service provision company center station C through the public network of a cellular phone.

[0007]

When the user who is carrying the personal digital assistant 100 needs help, for example in state of emergency, such as a heart stroke, the notice switch formed in the cordless handset 101 is operated. As a result, the current position coordinates based on the input signal from GPS Satellite 200 are computed with the personal digital assistant 100, urgent transmission is further made from the Radio Communications Department 120 with this computed result to the base station 300, and emergency connection reaches service company center station C through the public network 8 of a cellular phone. In service company center station C, as shown in drawing 6, the emergency vehicle B is run for the current position of the connected personal digital assistant 100 to reliance to the basis of the person having (member) of the personal digital assistant main phone 100. Although a user's current position coordinates are computed in the above in the control circuit 113 built in the Radio Communications Department 110, The received GPS receipt information is sent to service company center station C through the public network 8 of a cellular phone, and it may be made to compute a user's current position coordinates in center station C.

[0008]

Therefore, the user of the above-mentioned personal digital assistant device can do urgent transmission to the base station 300 by operating the notice switch formed in the

small cordless handset 101 which has always equipped the body also with the comparatively large shape used as a main phone without always carrying phone 100.

[0009]

[Problem(s) to be Solved by the Invention]

However, in the above-mentioned conventional art, when it goes out without not carrying the baggage in which the user accommodated the personal digital assistant 100 accidentally, and carrying the personal digital assistant 100, even if it operates the notice switch of a cordless handset, an emergency dial will not be possible. When the personal digital assistant 100 was lost, there was no means which discovers it efficiently, then, a contract of a main phone newly needed to be made, it needed to treat, and the problem which will be said if urgent transmission cannot be performed was during the period for it.

[0010]

The place which this invention is what was made in view of the above-mentioned reason, and is made into the purpose, When a user lessens going out without carrying a personal digital assistant accidentally and loses a personal digital assistant device accidentally, for example, it is in providing an easily discoverable personal digital assistant device and personal digital assistant service.

[0011]

[Means for Solving the Problem]

To achieve the above objects, if it is in a personal digital assistant device of this invention, A public wireless communication means which performs radio with a public network through radio, a GPS position information calculating means which performs a detecting position by a worldwide positioning system, The 1st communication equipment that has an input key switch of a specific radio wave receiving means which receives a radio wave signal from specific equipment, an emergency dial, etc. which can be inputted, It has the 2nd communication equipment that has a notice switch used for an emergency dial etc., and transmits a radio wave signal towards the 1st communication equipment, It is the personal digital assistant device whose report communication was enabled via said public network with said input key switch or a notice switch while the 1st communication equipment received intermittently a radio wave signal from the 2nd communication equipment, When it detects that a signal detection means which carries out signal level detection of a radio wave signal intermittently received from said 2nd communication equipment to said 1st communication equipment and this signal level are lower than a prescribed period and a predetermined signal level value, it is characterized by establishing an informing means reported with a sound, light, etc.

[0012]

A public wireless communication means which performs radio with a public network through radio with this composition, A GPS position information calculating means which performs a detecting position by a worldwide positioning system, In a signal

detection means provided in the 1st communication equipment that has an input key switch of a specific radio wave receiving means which receives a radio wave signal from specific equipment, an emergency dial, etc. which can be inputted. A signal level of an intermittent radio wave signal transmitted from the 2nd communication equipment that has a notice switch used for an emergency dial etc., and transmits a radio wave signal towards the 1st communication equipment is detected, And it is detected in an informing means provided in it that the signal level is lower than a prescribed period and a predetermined signal level value, and it is reported by a sound, light, etc.

[0013]

And when it is detected in the above-mentioned signal detection means that said radio wave signal is the 2nd predetermined less than signal level value lower than said given signal level value, it is preferred to send out position detection information by a GPS position information calculating means via a public wireless communication means towards said public network. A signal level of an intermittent radio wave signal transmitted from the 2nd communication equipment In this case, a prescribed period, That it is the 2nd predetermined less than signal level value combines with it being detected and being reported by a sound, light, etc. in an informing means, and wireless transmission of the position detection information by a GPS position information calculating means is carried out via a public wireless communication means towards a public network.

[0014]

Moreover -- being possible only when a detection result of a signal level which received intermittently [the above] a report through a public network by the above-mentioned notice switch is higher than said predetermined signal level value -- carrying out is preferred. In this case, only when higher than a predetermined signal level value with a detection result of a signal level of an intermittent radio wave signal received from the 2nd communication equipment, a report through a public network by a notice switch formed in the 2nd communication equipment is made.

[0015]

It is preferred to make radio wave signal frequency by the 2nd communication equipment of the above into an intermediate frequency of a signal modem section in which it is provided by said 1st communication equipment. In this case, a radio wave signal of the same frequency as an intermediate frequency of a signal modem section provided in the 1st communication equipment by the 2nd communication equipment with the 1st communication equipment is received.

[0016]

If it is in personal digital assistant service of this invention, When there is a request from a usage contract person of any one above-mentioned personal digital assistant device, It is characterized by what said 1st communication equipment is made to alert for position detection information by the GPS position information calculating means

through a public network, the position detected result is received through a public network, and the usage contract person concerned is notified of.

[0017]

This leads a public network according to a request from a usage contract person of a personal digital assistant device, A public wireless communication means which performs radio with a public network through radio, a GPS position information calculating means which performs a detecting position by a worldwide positioning system, And it gives the alert for position detection information by a GPS position information calculating means of the 1st communication equipment that has a specific radio wave receiving means which receives a radio wave signal from specific equipment. The position detected result is received through a public network, and the usage contract person concerned is notified.

[0018]

[Embodiment of the Invention]

Drawing 1 thru/or drawing 5 -- claims 1 thru/or 5 of this invention -- the 1 embodiment corresponding to all is shown and drawing 1, The explanatory view and drawing 3 in which personal digital assistant service according [the outline lineblock diagram and drawing 2 in which the personal digital assistant device of the 1 embodiment of this invention is shown] to the personal digital assistant device is shown are [the explanatory view of operation of the personal digital assistant device and drawing 5 of the explanatory view of the personal digital assistant main phone of the personal digital assistant device and drawing 4] the explanatory views of personal digital assistant service of this invention.

[0019]

The public wireless communication means to which the personal digital assistant device 1 of this embodiment carries out radio with the public network 8 through radio, The 1st communication equipment that has an input key switch of the GPS position information calculating means which performs the detecting position by a worldwide positioning system, the specific radio wave receiving means which receives the radio wave signal from specific equipment, an emergency dial, etc. which can be inputted, It has the 2nd communication equipment that has the notice switch 7 used for an emergency dial etc., and transmits a radio wave signal towards the 1st communication equipment, It is the personal digital assistant device whose report communication was enabled via said public network 8 with said input key switch or the notice switch 7 while the 1st communication equipment received intermittently the radio wave signal from the 2nd communication equipment, When it detects that the signal detection means 11 which carries out signal level detection of the radio wave signal intermittently received from said 2nd communication equipment to said 1st communication equipment and this signal level are lower than a prescribed period and a predetermined signal level value, the informing means reported with a sound, light, etc. is established.

[0020]

In the personal digital assistant device 1 of this embodiment, as [send / when it is detected in said signal detection means that said radio wave signal is the 2nd predetermined less than signal level value lower than said given signal level value / towards said public network 8 / via a public wireless communication means / the position detection information by a GPS position information calculating means] -- even if it carries out, it is. In the personal digital assistant device 1 of this embodiment, only when the detection result of the signal level received intermittently [the above] is higher than said predetermined signal level value the report through the public network 8 by said notice switch 7, even if it makes that it is possible, it is.

[0021]

In detail, this personal digital assistant device 1 is used for the service provision using a GPS positioning system of an emergency reporting system, and comprises the cordless handset 6 used as the personal digital assistant main phone 2 used as the 1st communication equipment, and the 2nd communication equipment.

[0022]

The personal digital assistant main phone 2 has three the public wireless communication means, GPS position information calculating means, and specific radio wave receiving means which serve as the Radio Communications Department. This personal digital assistant main phone 2 centers on the main control circuit 10 formed with the microcomputer, as shown in drawing 1, . Restore to the input signal by the antenna 31 for modems and the antenna 31 for modems of transmission and reception combination used as a public wireless communication means, and turn and output the sending signal which outputted received data or became irregular with send data to the antenna 31 for modems. The modem section 32 and the power supply 33 for modems which are the wireless communication circuits provided with the RF section and the strange demodulator circuit unit, The GPS antenna 41 for GPS reception used as a GPS position information calculating means, GPS transmitting and receiving part 42 and the power supply 43 for GPS which are the wireless circuits which restore to the input signal of the GPS antenna 41, and output received data, The receiving circuit 52 and the power supply 53 for receiving circuits which restore to the input signal by the receiving antenna 51 and the receiving antenna 51 which receive the radio wave signal from the 2nd communication equipment mentioned later used as a specific radio wave receiving means, and output received data are established, . Served both as the liquid crystal display 13 for performing the display of the keypad 12 which is a collective part of the input key switch of the emergency dial for alter operation, etc. which was exposed outside, and which can be inputted, the contents of operation by this keypad 12, or various states, and the informing means. It has the buzzer 14 for sounding the confirm call at the time of input key operation, the rechargeable battery 15 which performs current supply to the main control circuit 10, and the charge circuit 16 which charges this rechargeable

battery 15, and each of these is accommodated in the case of a portable size.

[0023]

On the processing program, the main control circuit 10 monitors the operational input by the keypad 12 continuously, and performs processing according to the input. The modem section 32, GPS transmitting and receiving part 42, and the receiving circuit 52 are controlled by this main control circuit 10, the modem section 32 performs input and output of received data and send data between the main control circuits 10, and GPS transmitting and receiving part 42 and the receiving circuit 52 output received data to the main control circuit 10. In this personal digital assistant main phone 2, drive controlling of the above-mentioned power supply 33 for modems, the power supply 43 for GPS, and the power supply 53 for receiving circuits is carried out in this main control circuit 10, and current supply is carried out from the rechargeable battery 15. That is, at the time of usual [used as the operational input waiting by the keypad 12], the low-power-consumption state carried out the sleep mode, it operated and the signal from the cordless handset 6 (the 2nd communication equipment) is received intermittently in the receiving circuit 52. (Refer to drawing 2)

[0024]

As for the main control circuit 10, what has an A/D conversion input part for forming the signal detection means 11 which carries out signal level detection of the radio wave signal intermittently received from the cordless handset 6 mentioned later is preferred. By the signal detection means 11 formed with the processing program of this main control circuit 10, when it detects that the signal level of the radio wave signal from the cordless handset 6 mentioned later is lower than a prescribed period and the 1st predetermined signal level value, singing of the buzzer 14 of an informing means is carried out towards the main control circuit 10. When the processing program according to the main control circuit 10 in this case is the 2nd less than signal level value whose signal level of the above-mentioned radio wave signal is lower than the 1st signal level value set up suitably, It is formed also so that the position detection information by a GPS position information calculating means may be sent out via a public wireless communication means towards said public network 8.

[0025]

In this thing, as shown in drawing 3 (a), received frequency RF1 of the receiving circuit 52 of the personal digital assistant main phone 2 used as the radio wave signal frequency by the cordless handset 6 used as the 2nd communication equipment, As the 1IF-frequency IF2 used as the intermediate frequency of the modem section 32, a part of receiving circuit 52 and circuit of the modem section 32 are shared and constituted. Namely, choose the same frequency as the received frequency of the receiving circuit 52 as the 1st IF frequency of the modem section 32, and also as the receiving circuit 52, As 1st IF filter 32a of the modem section 32, IF amplifier 32b, the 2nd down converter 32c, 32 d of the 2nd IF filter, the limiter amplifier 32e, and 32 f of demodulator circuits are

shared, selection of the receiving circuit 52 and the modem section 32 is switched with the switch 52h.

[0026]

When the above-mentioned composition receives the radio wave signal from the cordless handset 6, The switch 52h is pushed down to the receiving antenna 51 side, current supply is performed only to IF filter 32a, IF amplifier 32b, the down converter 32c, the limiter amplifier 32e, 32 f of demodulator circuits, and the main control circuit 10, and the current supply to the other circuit is suspended. And in the main control circuit 10, attestation of the identification number of the cordless handset 6 and detection of a signal level are performed from the received radio wave signal, The keypad 12 is operated or the signal level from the cordless handset 6 A prescribed period, When it detects that it is the 2nd predetermined less than signal level value, the switch 52h is pushed down to the antenna 31 side for modems, and prehension of GPS data or communication with the modem section 32 and the wireless base station 81 is started. Thereby, compared with the circuitry which it becomes possible to share the circuit part in which a function is common, for example, is shown in drawing 3 (b), reduction of part mark can be aimed at between the receiving circuit 52 and the modem section 32.

[0027]

The receiving antenna 51 which receives the signal from the cordless handset 6 used as a specific radio wave receiving means in the composition of drawing 3 (b) in detail, In the receiving circuit 52 which restores to the input signal by this and outputs received data. RF filter 52a which attenuates an unnecessary wave, the amplifier 52b which amplifies a weak signal, The down converter 52c which carries out frequency conversion from received frequency RF1 to intermediate frequency IF1, The limiter amplifier 52e which improves the amplitude fluctuation ingredient produced under the influence of 52 d of IF filters which pass only the zone of a desired channel, and phasing, etc., 52 f of demodulator circuits which restore to received data, and 52 g of local oscillation circuits which generate local oscillation frequency are provided. There is the duplexer 32g for sharing one antenna in a transmission and reception circuit in the modem section 32, and further the circuit of this receiving system, LNA(Low Noise Amplifier) 32h which amplifies a weak signal by low noise, RF filter 32i which attenuates an unnecessary wave, the 1st down converter 32j that carries out frequency conversion to received frequency RF2 to 1st intermediate frequency IF2, 1st IF filter 32a that passes only the zone of a desired channel, IF amplifier 32b which makes 1st intermediate frequency IF2 amplify, It comprises the limiter amplifier 32e which improves the amplitude fluctuation ingredient produced under the influence of the 2nd down converter 32c that carries out frequency conversion to 2nd intermediate frequency IF3, 32 d of the 2nd IF filter that passes only the zone of a desired channel, and phasing, etc., and 32 f of demodulator circuits which restore to received data.

[0028]

The local oscillation circuit 32k is a circuit which generates local oscillation frequency, and as a circuit of the transmission system of this modem section 32, PA(Power Amplifier) 32l which amplifies to predetermined transmission power, RF filter 32m from which a high order spurious ingredient is removed, the driver amplifier 32n which amplifies to the fitness input level of PA, It has the up converter 32o which carries out frequency conversion from intermediate frequency IF4 to RF frequency RF2, IF amplifier 32p which makes intermediate frequency IF4 amplify, and the modulation circuit 32q which becomes irregular with send data.

[0029]

The cordless handset 6 used as the 2nd communication equipment is equipped with the function which transmits a radio wave signal towards the receiving circuit 52 of the personal digital assistant main phone 2 via the above-mentioned receiving antenna 51. In this case, it has the notice switch 7 operated when the abnormalities on healthy occur to a user, a switch for an examination which examines the radio check between the personal digital assistant main phones 2, etc., etc., and is formed. Compared with what depends the communication between this cordless handset 6 and the personal digital assistant main phone 2 on the one-way transmission from the cordless handset 6, and is depended on two-way communication, the composition of the cordless handset 6 becomes an easy thing without a receive section. It can have a part which does not need to carry software with the communication with the cordless handset 6 and the personal digital assistant main phone 2, or the change judgment function of the communication destination of ** for direct public networks, and easy composition.

[0030]

In the above personal digital assistant device 1, the modem section 32 and GPS transmitting and receiving part 42 serve as a sleep mode which is low power consumption, and the receiving circuit 52 has usually received the radio wave signal from the cordless handset 6 (the 2nd communication equipment) intermittently. As shown in drawing 2, when the abnormalities on healthy occur to a user and the predetermined input key of the keypad 12 of the personal digital assistant main phone 2 or the notice switch 7 of the cordless handset 6 is pushed at this time, the personal digital assistant main phone 2 which is a sleep mode is started, and starts operation.

[0031]

The main control circuit 10 detects that the predetermined input key of the keypad 12 or the notice switch 7 of the cordless handset 6 was pushed, starts the modem section 32 from a sleep mode, and carries out the registration to the wireless base station 81. In registration, the modem section 32 concerned is set as transceiver mode. Subsequently, it connects with the NTP server formed in the wireless base station 81, and the modem section 32 acquires NTP (Network Time Protocol) data. GPS transmitting and receiving part 42 receives the GPS data from GPS Satellite 9 after acquisition of this NTP data. The received GPS receiving data is transmitted from the modem section 32, and service

company center station C is notified via the wireless base station 81. If transmission of data is completed, the personal digital assistant main phone 2 will be in sleeping of low power consumption after predetermined time progress.

[0032]

Then, from GPS receiving data, the service company center station C side which received the report from a user can compute a user's position information, and can connect the position coordinate of the personal digital assistant main phone 2 to the emergency vehicle B.

[0033]

Next, in the emergency reporting system by the personal digital assistant device 1 constituted as mentioned above, a means to prevent loss of the personal digital assistant main phone 2 is explained using drawing 5. As shown in the figure (a), the user A who turns into a member by a personal digital assistant service usage contract is carrying the personal digital assistant main phone 2 (the 1st communication equipment) and the cordless handset 6 (the 2nd communication equipment) attached to it, and always attaches the cordless handset 6 to the body. In the personal digital assistant main phone 2, as shown in the figure (b), the signal level of the radio wave signal received from this cordless handset 6 A prescribed period, It considers that it separated from the prescribed distance d which detected that it was lower than a predetermined value and to which the personal digital assistant main phone 2 and the cordless handset 6 are in solving and being alike, the buzzer 14 which served as the informing means provided in the personal digital assistant main phone 2 is sounded, and it reports to a user. This informing means can use various means, such as what is depended on light etc. in addition to above buzzer 14, and a thing which this light and a sound depend simultaneously. By lecturing on such a means, loss of the personal digital assistant main phone 2 can be prevented.

[0034]

In this thing, the signal level of the intermittent radio wave signal transmitted from the 2nd communication equipment A prescribed period, It combines with it being detected that it is the 2nd predetermined less than signal level value, and being reported by the buzzer 14 from said given signal level value, The processing program by the main control circuit 10 is formed so that the position detection information by a GPS position information calculating means may be sent out via a public wireless communication means towards said public network 8.

[0035]

When the radio wave signal from the cordless handset 6 received with the personal digital assistant main phone 2 is not detected over more than a prescribed period in detail, The main control circuit 10 starts the personal digital assistant main phone 2 from a sleep mode independently, and it notifies the current position coordinates which become settled using the information from GPS Satellite 9 to service company center station C via the public network 8 of a cellular phone. Therefore, when there is a request

from a user, in a service company center station, it becomes possible to carry out based on the detected position information, and to pinpoint the place of the personal digital assistant main phone 2 under loss, and the recovery efforts can be performed promptly. Therefore, when it has forgotten at the place which the personal digital assistant main phone 2 separated from the anticipated-use area and a theft is suited, it can discover easily.

[0036]

Namely, personal digital assistant service of this embodiment, When there is a request from the usage contract person of the above personal digital assistant device 1, said personal digital assistant main phone 2 is made to alert for the position detection information by the GPS position information calculating means through the public network 8, The position detected result is received through the public network 8, and when the usage contract person concerned is notified and the personal digital assistant device 1 is lost accidentally, for example, it can discover easily.

[0037]

In the processing program top of the main control circuit 10 of this personal digital assistant main phone 2, It is supposed that it is possible only when the detection result of the signal level which received intermittently [the above] the report through the public network 8 by the notice switch 7 is higher than said predetermined value, If it is in the state where the radio wave signal from the cordless handset 6 received with the personal digital assistant main phone 2 in the time of the above-mentioned loss, etc. is not detected over more than a prescribed period, he is trying for the personal digital assistant main phone 2 to disregard the operational input by the keypad 12. Therefore, when the personal digital assistant device 1 is lost accidentally, for example, the report which others who are third parties operate the keypad 12 of the personal digital assistant main phone 2, and depend in vain intentionally can be prevented beforehand.

[0038]

Therefore, the public wireless communication means which performs radio with the public network 8 through radio according to the personal digital assistant device 1 explained above, The GPS position information calculating means which performs the detecting position by a worldwide positioning system, In and the signal detection means provided in the personal digital assistant main phone 2 which has a specific radio wave receiving means which receives the radio wave signal from specific equipment. The signal level of the intermittent radio wave signal transmitted from the cordless handset 6 which has the notice switch 7 used for an emergency dial etc., and transmits a radio wave signal towards the personal digital assistant main phone 2 is detected, And since it is detected at the buzzer 14 formed in it that the signal level is lower than a prescribed period and a predetermined value and it is reported by the sound, it can lessen going out without a user carrying a personal digital assistant accidentally.

[0039]

The signal level of the intermittent radio wave signal transmitted from the cordless handset 6 And a prescribed period, Since that it is the 2nd predetermined less than signal level value combines with it being detected and being reported by the buzzer 14 and wireless transmission of the position detection information by a GPS position information calculating means is carried out via a public wireless communication means towards a public network, the place of the personal digital assistant main phone 2 can be pinpointed easily. Since the report through the public network 8 by the notice switch 7 formed in the cordless handset 6 is made only when higher than a predetermined value with the detection result of the signal level of the intermittent radio wave signal received from the cordless handset 6, When the personal digital assistant device 1 is lost accidentally, for example, the report which others who are third parties operate the keypad 12 of the personal digital assistant main phone 2, and depend in vain intentionally can be prevented beforehand.

[0040]

Since the radio wave signal of the same frequency as the intermediate frequency of the signal modem section provided in the personal digital assistant main phone 2 by the cordless handset 6 is received, part mark can decrease and a circuit can consist of the personal digital assistant main phones 2. If it is in personal digital assistant service of this invention, A public network is led according to the request from the usage contract person of the personal digital assistant device 1, The public wireless communication means which performs radio with a public network through radio, the GPS position information calculating means which performs the detecting position by a worldwide positioning system, And it gives the alert for the position detection information by the GPS position information calculating means of the personal digital assistant main phone 2 which has a specific radio wave receiving means which receives the radio wave signal from specific equipment. Since the position detected result is received through a public network and the usage contract person concerned is notified, when the personal digital assistant device 1 is lost accidentally, for example, it can discover easily.

[0041]

[Effect of the Invention]

The personal digital assistant device of this invention, and personal digital assistant service -- an above-mentioned operative condition -- it can lessen going out without carrying out so that like, and a user carrying a personal digital assistant accidentally -- a personal digital assistant device -- for example, when it loses accidentally, it can discover easily.

[0042]

[Brief Description of the Drawings]

[Drawing 1]

It is an outline lineblock diagram showing the personal digital assistant device of the 1 embodiment of this invention.

[Drawing 2]

It is an explanatory view showing the personal digital assistant service by the personal digital assistant device.

[Drawing 3]

It is an explanatory view of the personal digital assistant main phone of the personal digital assistant device.

[Drawing 4]

It is an explanatory view of operation of the personal digital assistant device.

[Drawing 5]

It is an explanatory view of personal digital assistant service of this invention.

[Drawing 6]

It is an explanatory view showing the whole personal digital assistant service.

[Drawing 7]

It is an outline lineblock diagram showing the main phone of the personal digital assistant device which is a conventional example of this invention.

[Description of Notations]

- 1 Personal digital assistant device
- 2 Personal digital assistant main phone (the 1st communication equipment)
- 32 Modem section (public wireless communication means)
- 42 GPS transmitting and receiving part (GPS position information calculating means)
- 52 Receiving circuit (specific radio wave receiving means)
- 6 Cordless handset (the 2nd communication equipment)
- 7 Notice switch
- 8 Public network
- 11 Signal detection means
- 14 Buzzer (informing means)